

REMARKS

Claims 9-19 are pending. Reconsideration and allowance of the present application based on the following remarks are respectfully requested.

Claim Rejections Under 35 U.S.C. § 103

A. Claims 9, 11, 18, and 19 were rejected under 35 U.S.C. § 103(a) over Fang et al. (U.S. patent No. 5,858,844) in view of Iijima et al. (U.S. Patent No. 5,903,053). Applicant respectfully traverses this rejection.

Claim 9 recites, in part, a method of fabricating a semiconductor device which includes forming a silicon oxide layer on a semiconductor substrate, forming a conductive layer on the silicon oxide layer, and forming a metal oxide layer with a substantially uniform thickness at an interface between the silicon oxide layer and the conductive layer. As admitted in the Office Action, Fang fail to teach forming a metal oxide layer with a substantially uniform thickness at an interface between the silicon oxide layer and the conductive layer, as recited in claim 9. The Office Action relies on Iijima as allegedly teaching this feature. Applicant respectfully disagrees.

Iijima discloses (Figures 8 and 9 and column 13) that a SiO₂ film 62 is formed on the substrate 61, a TiN layer 64 is formed on the SiO₂ layer 62, a Cu layer 65 is formed on the TiN layer 64, and that a TiO₂ layer 69 is formed at the interface between the TiN layer and the Cu layer. Iijima does not teach or suggest forming a metal oxide layer with a substantially uniform thickness at an interface between the silicon oxide layer and the conductive layer, since the metal oxide layer in Iijima is not uniformly thick and it is not located at the interface between the silicon oxide layer and the conductive layer (see Figure 8B) and as admitted in the Office Action, Fang does not remedy this deficiency. Accordingly, no combination of Fang and Iijima teach or suggest a method of fabricating a semiconductor device which includes forming a silicon oxide layer on a semiconductor substrate, forming a conductive layer on the silicon oxide layer, and forming a metal oxide layer with a substantially uniform thickness at an interface between the silicon oxide layer and the conductive layer, as recited in claim 9.

Claims 11, 18, and 19 are believed allowable for at least the reasons presented above with respect to claim 9 by virtue of their dependence upon claim 9. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

Col. 12 lines 27-30
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see figures 62-65
TiO₂ (69)
TiN 64
62-SiO₂
61 sub

CHO -- Appln. No. 10/026,537

B. Claims 10 and 12-17 were rejected under 35 U.S.C. § 103(a) over Fang in view of Microchip Fabrication Textbook (Van Zant) and Iijima. Applicant respectfully traverses this rejection.

Claims 10 and 12-17 are believed allowable for at least the reasons presented above with respect to claim 9 by virtue of their dependence upon claim 9. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

Conclusion

In view of the foregoing, the claims are believed to be in form for allowance, and such action is hereby solicited. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Please charge any fees associated with the submission of this paper to Deposit Account Number 03-3975 under Order No. 82118/282974. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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